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OKLAHOMA'S BLACK VULTURE (*Coragyps atratus*) BREEDING RANGE EXPANDS NORTH TO WASHINGTON COUNTY

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Abstract—A Black Vulture nest with two eggs was discovered in Washington County, Oklahoma in April 2015, and is the northernmost known nest in Oklahoma. Staggered initiation of incubation, a difference in egg size, or a discrepancy in food allocation may have contributed to size and developmental rate differences between the chicks. Population trend data suggest an ongoing increase in Black Vulture numbers, and an increase in observations at and beyond the currently published northwestern edge of the breeding range suggest that a range expansion may also be underway.

OBSERVATION

On 14 March 2015, I observed two Black Vultures (*Coragyps atratus*) standing on the partial roof of an old shed in a wooded area near Bartlesville, Washington County, Oklahoma. Perching near potential nest sites for several weeks prior to nesting is common in Black Vultures (Buckley 1999). On 18 April, I flushed one adult and discovered two eggs placed on accumulated leaf and acorn litter between rafters in the attic. The eggs were grayish-cream in color, with large brownish to purplish-brown splotches concentrated at the larger end (Figure 1). By 3 June, two large chicks covered in a richly colored reddish-khaki down were present, with a noticeable size disparity between them. By 20 July, the young had left the attic for ground level, and their black wing and tail feathers were developing, although they still appeared mostly in downy feathers. By 2 August, the larger chick had attained its black juvenile plumage, with only wisps of down remaining, while the smaller chick still had extensive down on the head, back, and underparts. Figure 1 shows the eggs, the chicks on matching dates illustrating their developmental differences, and the adults. This observation represents the northernmost known Black Vulture nest in Oklahoma and the first nest record for Washington County.

Figure 1. Black Vulture (*Coragyps atratus*) eggs, chicks, and adults at a nest in Washington County, Oklahoma. Note the size and developmental differences between the two chicks. Photos by Dan Reinking.

DISCUSSION

The clutch size of two eggs is typical for Black Vultures. The size disparity between the chicks might be due to one egg being incubated before the second egg was laid, or due to one egg being larger than the other (though the eggs were not measured, one does appear to be larger in photographs), or both. Black Vultures often begin incubation of both eggs at once, but sometimes may incubate the first egg for one to three days before the second egg is laid (Buckley 1999). The larger chick is typically fed first and gets most of the food, which may also contribute to developmental rate differences between the chicks. The relatively slow development of Black Vulture chicks, which don't fly until about 75–80 days of age, is thought to be an adaptation to cope with potential food shortages during periods of inclement weather when adults do not forage. A prolonged juvenile dependency period of up to eight months after fledging strengthens the social ties among Black Vultures, which maintain family associations through the first year of life (Buckley 1999).

The Black Vulture occurs from the southeastern United States south through much of South America. It is largely a resident species, although some birds in northern parts of its range make short, seasonal migratory movements (Buckley 1999). Its current range in Oklahoma includes the southeastern portion of the state, west to Comanche County and north to Creek, Tulsa, southern Osage, Rogers, and Craig Counties in northeastern Oklahoma (OBRC 2014). Baumgartner and Baumgartner (1992) included a May 1955 observation in Washington County, but the species has generally been considered absent in this county until approximately the past three years when the number of Washington County observations has increased (pers. comm. with colleagues as well as data from ebird.org). The closest observations of Black Vulture to Washington County that were reported during the Oklahoma Breeding Bird Atlas (OBBA) project (1997–2001) were from Muskogee and Delaware Counties (Andrews 2004), both over 100 km from Bartlesville.

Numerous recent eBird observations north and west of the mapped OBBA range suggest a range expansion in recent years. Thompson and Ely (1989) include records indicating that Black Vultures previously nested in Kansas in the late 1800s, but Black Vultures were not detected or included in the Kansas Breeding Bird Atlas (Busby and Zimmerman 2001). They are suspected of breeding again in southeastern Kansas based on the frequency of recent sightings, and have been reported west into south-central Kansas (Thompson *et al.* 2011; Tyler 2015). There are now several spring eBird reports from 2014 and 2015 (http://ebird.org) in two Kansas counties adjacent to Washington County, Oklahoma, as well as other southeastern Kansas counties, which support the possibility of an ongoing northward breeding range expansion of the

species beyond Oklahoma and into Kansas. Breeding Bird Survey data also suggest an increasing population trend for Black Vultures in Oklahoma and the neighboring states of Arkansas and Missouri, as well as survey-wide in the U.S. (Sauer *et al.* 2014).

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